

CLAIMS

1. A temporary storage method for a linear body, wherein, in a plurality of temporarily storing means having: a plurality of upper rollers which are arranged parallel with each other in a lateral
5 direction, have rotary axes parallel to each other and perform free rotation; and a plurality of lower rollers which are respectively arranged directly below spaces between adjacent upper rollers, capable of relatively moving toward and away from the upper rollers, have rotary axes parallel to those of the upper rollers and perform free
10 rotation, the temporary storage method comprises: alternately and sequentially winding a linear body traveling in a longitudinal direction around the upper and lower rollers to form a festoon; leading the linear body fed from an outlet of one temporarily storing means of the adjacent temporarily storing means to an inlet of the other temporarily
15 storing means by guiding means; and thereby allowing the same linear body to sequentially pass through all the temporarily storing means while forming the festoon.

2. A temporary storage device for a linear body, comprising: a plurality of temporarily storing means having a plurality of upper
20 rollers which are arranged parallel with each other in a lateral direction, have rotary axes parallel to each other and perform free rotation, and a plurality of lower rollers which are respectively arranged directly below spaces between adjacent upper rollers, capable of relatively moving toward and away from the upper rollers, have
25 rotary axes parallel to those of the upper rollers and perform free rotation, the temporarily storing means alternately and sequentially winding a linear body traveling in a longitudinal direction around the upper and lower rollers to form a festoon; and guiding means for guiding the linear body fed from an outlet of one temporarily storing
30 means of the adjacent temporarily storing means to an inlet of the other temporarily storing means, wherein the same linear body is allowed to sequentially pass through all the temporarily storing means while forming the festoon.

3. A temporary storage device for a linear body according to claim 2, wherein the outlet and the inlet of the adjacent temporarily storing means are respectively provided at one end portion and the other end portion in the longitudinal direction of the temporarily storing means, the guiding means having outlet side and inlet side guide rollers which are respectively arranged in the vicinity of the outlet and the vicinity of the inlet of the temporarily storing means, have rotary axes arranged on the substantially horizontal same plane and have a straight line connecting axial centers being perpendicular to the rotary axes, a traveling direction of the linear body fed from the outlet of the temporarily storing means is slightly shifted in the lateral direction by the outlet side guide roller, then the linear body is guided to the inlet side guide roller, the shifting in the lateral direction is eliminated by the inlet side guide roller, and the linear body is thereafter guided to the inlet of the temporarily storing means.

4. A temporary storage device for a linear body according to claim 2 or 3, further comprising an abnormal tensile force detecting means for detecting occurrence of an abnormal tensile force when the abnormal tensile force is generated to the linear body, said abnormal tensile force detecting means being provided on the downstream side apart from the outlet of the temporarily storing means.

5. A temporary storage device according to claim 4, wherein said abnormal tensile force detecting means comprises: an oscillating arm capable of oscillating around a central portion thereof; a detection roller which is rotatably supported at an end portion of the oscillating arm and reverses a traveling direction of the linear body when the linear body is wound therearound; a magnet which is provided at the other end portion of the oscillating arm and attracts a fixing member to hold the oscillating arm at a predetermined oscillating position; and a detection sensor which detects the oscillating position of the oscillating arm, and when an abnormal tensile force is generated to the linear body, the magnet is disengaged from the fixing member to allow the oscillating arm to oscillate from the predetermined oscillating position

by an excessive oscillating force given to the detection roller from the linear body, and the oscillation of the oscillating arm is detected by the detection sensor.